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SERVICE MANUAL
& PARTS LIST (with price)

EV-500B(KX-615)

FEB. 1995

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CASIO®

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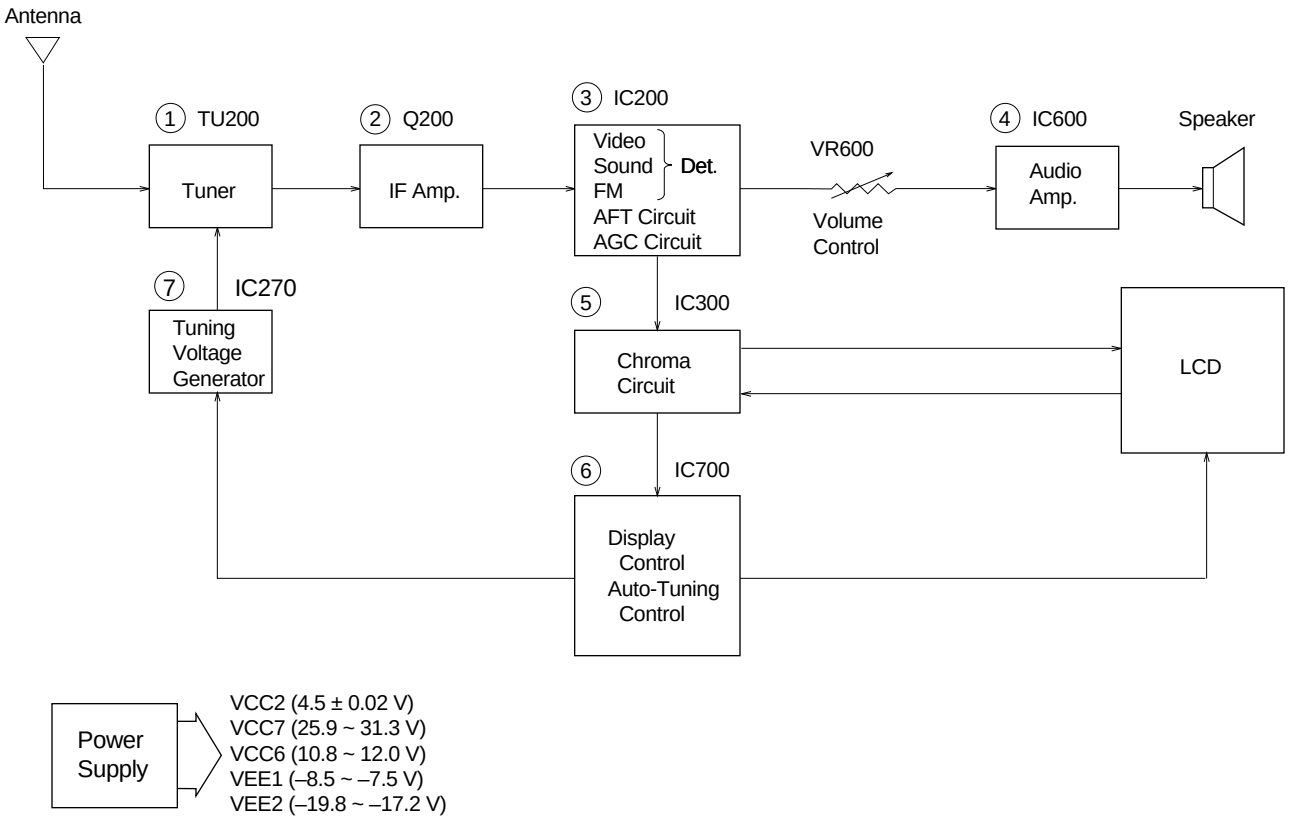
SPECIFICATIONS

Item	Specification
1. Reception channels	VHF: 2 ~ 13 ch UHF: 21 ~ 69 ch
2. Power voltage	DC 6.0 V
3. Power consumption	Approx. 3.7 W
4. Current consumption	Approx. 617 mA
5. Battery life (with alkaline batteries)	Approx. 2.0 hours
6. Power supply	Batteries : 3 AA size batteries Car adaptor : CA-K65 AC adaptor : AD-K65
7. Connection terminals	Earphone jack : 3.5ø mini External power jack : 6.0 V DC IN External antennea jack : 3.5ø mini Audio / Video jack : 3.5ø
8. Screen size	2.5 inches
9. No. of Picture element	61,380 (220 × 279) dots
10. Dimensions	75 (W) × 26.7 (D) × 120.8 (H) mm 3 (W) × 1 (D) × 4 3/4 (H)
11. Weight	191 g excepting batteries 6.7 oz excepting batteries
12. Standard accessories	Test batteries (R6 × 3)
13. Options	AC adaptor : AD-K65,64 Car adaptor : CA-K65 RF connector : CF-13 Antenna matching device : AS-35S
14. Body color	Black

BLOCK DIAGRAM



① — Color tuner: TU200 TEPU5-02
Selects a desired radio wave and changes it to the video IF signal.

② — Video IF amp.: Q200 2SC4238
Amplifies the video IF signal output from tuner TU200 by 10 times (20 dB).

③ — Video det./Sound det./FM det./AFT/AGC: IC200 M51348FP
Eliminates the carrier wave in the video IF signal, and picks up the video signal and the sound IF signal. Also, the sound signal is picked up from the sound IF signal by FM detection.

④ — Audio amp.: IC600 NJM2070M
Sound amplification.

⑤ — Chroma circuit: IC300 IR3P90Y
Generates the tricolor (red, green, and blue) from the video signal.

⑥ — Display control/Auto-tuning control: IC700 MSM6770GS
Controls the display.

⑦ — Tuning voltage generator: IC270 BA10358F
Generates the tuning voltage with the tuning pulse output from ⑥.

CIRCUIT DESCRIPTION

POWER SUPPLY

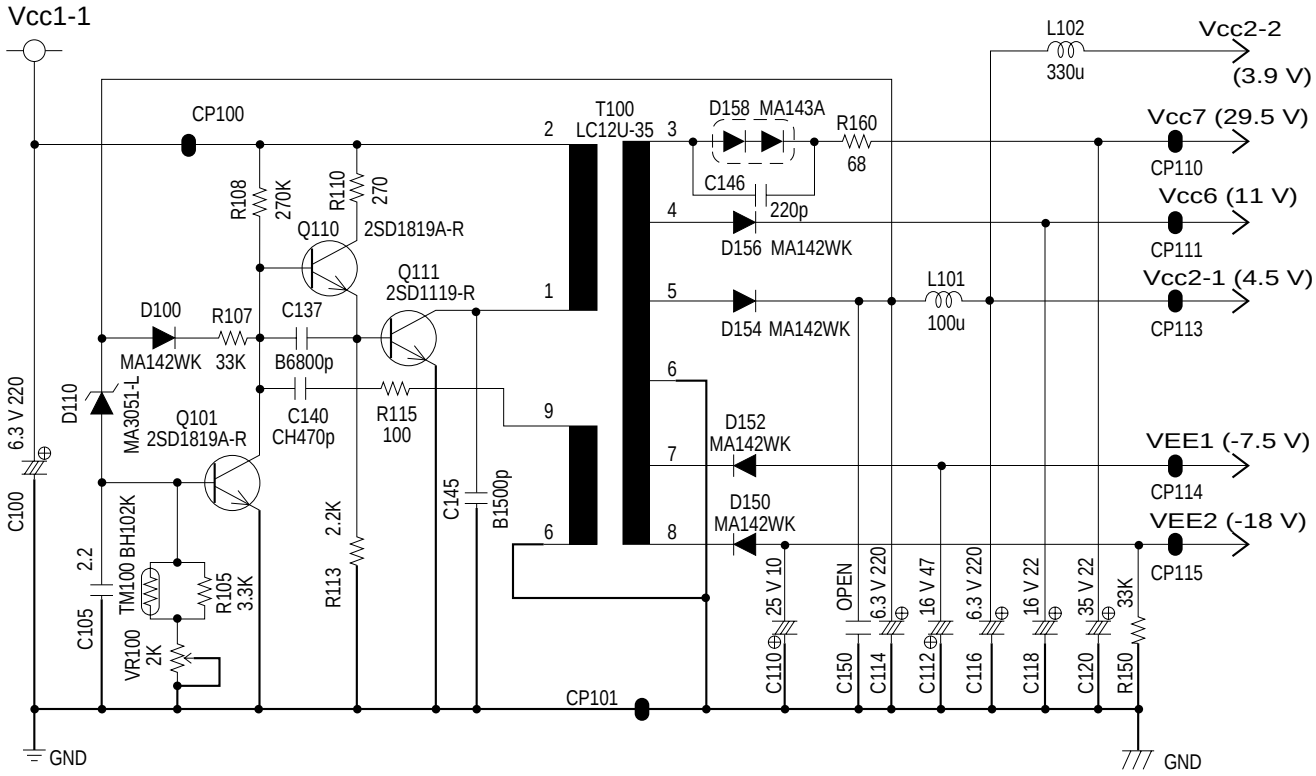


Figure 1

The power supply consists of a DC-DC converter and the associated circuit and supplies the voltages as shown in Table 1.

Name	Voltage	Function
VCC2-1	4.50 ± 0.02 V	Main voltage
VCC7	25.9 ~ 31.3 V	Tuning voltage
VCC6	10.8 ~ 12.0 V	Display voltage
VEE1	–8.5 ~ –7.5 V	Display voltage
VEE2	–19.8 ~ –17.2 V	Display voltage

Table 1

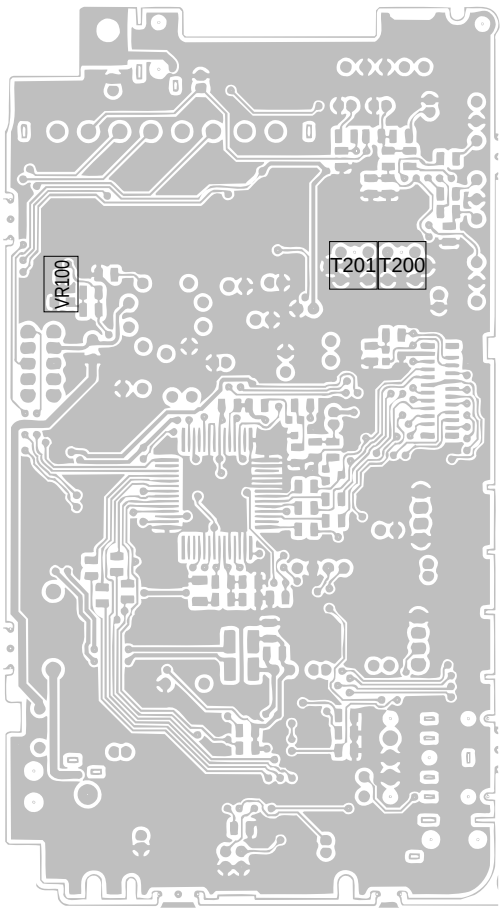
ADJUSTMENT

LINEAR PCB

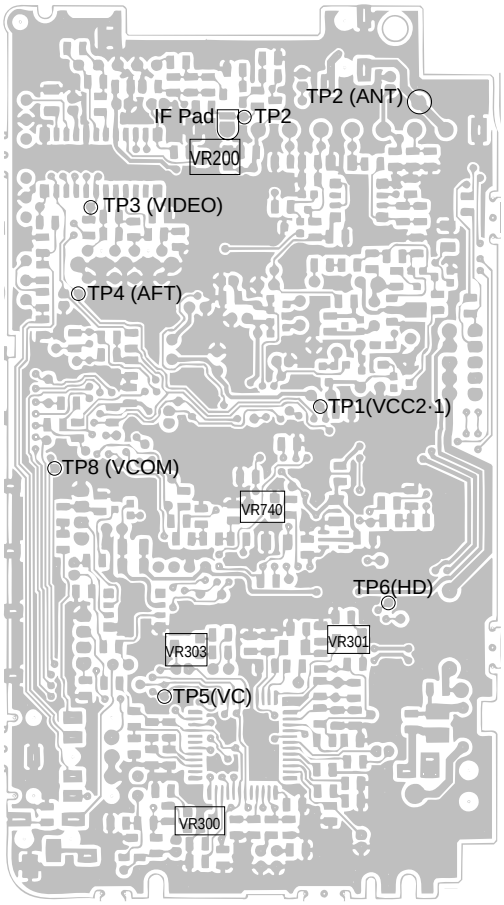
Items to Be Adjusted

Item	Measuring Instrument
VCC2-1 voltage setting	Voltmeter
Video detection coil adjustment	TV signal generator, pattern generator, oscilloscope, low-pass filter
AFT coil adjustment	Sweep generator, oscilloscope, voltmeter
Contrast adjustment	TV signal generator, pattern generator, oscilloscope
Tint adjustment	TV signal generator, pattern generator, oscilloscope
AGC adjustment	TV signal generator, pattern generator, IF levelmeter
Vcom adjustment	Photo diode, photo sensor amp., bandpass filter, oscilloscope
Free-Running frequency adjustment	Frequency counter

Adjustment and Test Point Locations



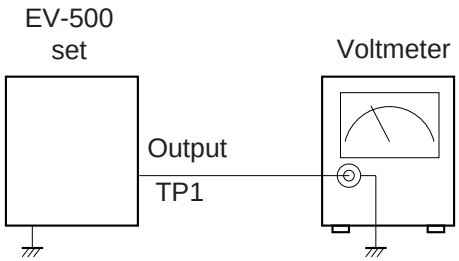
Top View



Bottom View

Equipment Connection / Adjustment Procedure

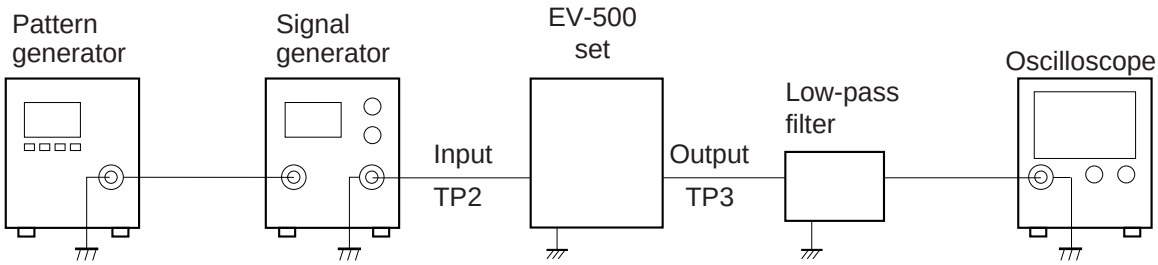
VCC2-1 Voltage Setting



Input Connection	Input Point	Input Signal	Adjust	Output Connection	Output Point	Result
————	——	————	VR100	Voltmeter	TP1	Adjust to obtain a 4.50 ± 0.02 V reading on the voltmeter.

Video Detection Coil Adjustment

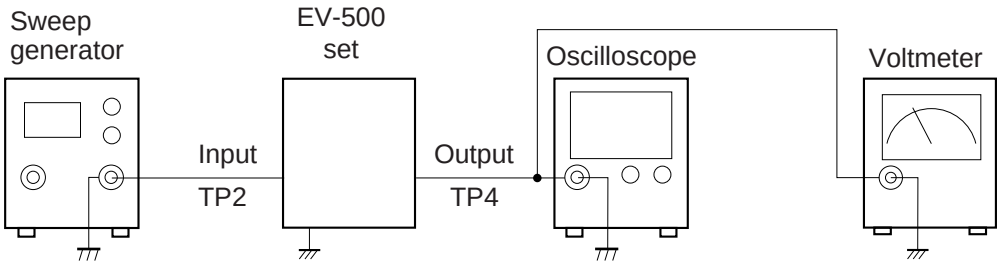
* Desolder the IF pad to open.



Input Connection	Input Point	Input Signal	Adjust	Output Connection	Output Point	Result
Pattern generator Signal generator	TP2	Color bar 45.75 MHz 45 ± 3 dBμ	T200	Low-pass filter Oscilloscope	TP3	Adjust to obtain the minimum DC level.

AFT Coil Adjustment

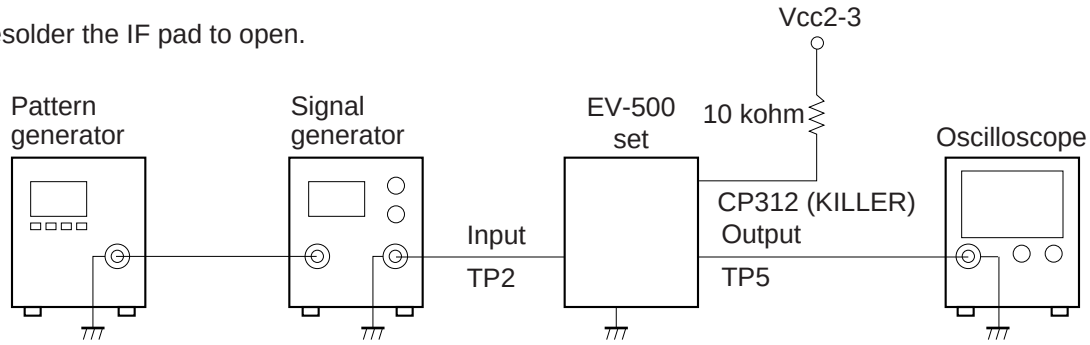
* Desolder the IF pad to open.

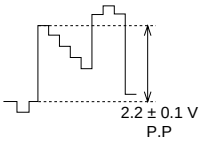


Sweep generator	TP2	45.75 ± 5 MHz (sweep) marker: 45.75 MHz 70 ± 3 dBμ	T201	Voltmeter Oscilloscope	TP4	Adjust to obtain a 1.4 ± 0.2 V reading on the voltmeter. Confirm that the marker is at the middle of the S-curve on the oscilloscope.

Contrast Adjustment

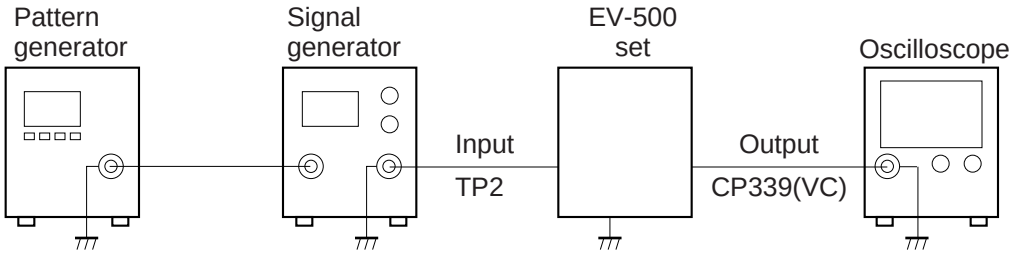
* Desolder the IF pad to open.

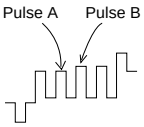


Pattern generator Signal generator	TP2	Color bar 45.75 MHz 70 ± 3 dBμ	VR300	Oscilloscope	TP5	Adjust so that the step form wave becomes 2.2 ± 0.1 Vp-p. 

BCC Adjustment

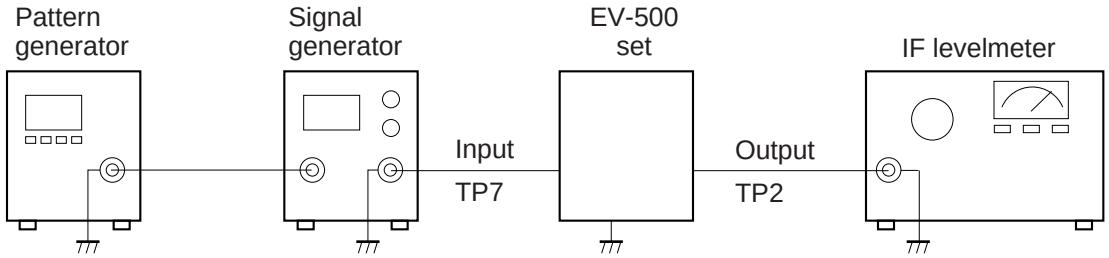
* Desolder the IF pad to open.



Input Connection	Input Point	Input Signal	Adjust	Output Connection	Output Point	Result
Pattern generator Signal generator	TP2	Color bar 45.75 MHz 70 ± 3 dBμ	VR301	Oscilloscope	TP5	Adjust VR301 so that the difference between pulses A and B is less than 0.2 V. 

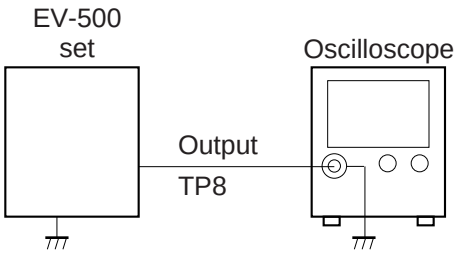
AGC Adjustment

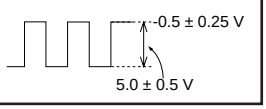
* Short the IF pad.



Pattern generator TV signal generator	TP7	Color bar 65 ± 5 dBμ	VR200	IF levelmeter	TP2	Adjust to obtain a 84 ± 2 dBμ reading on the IF levelmeter.

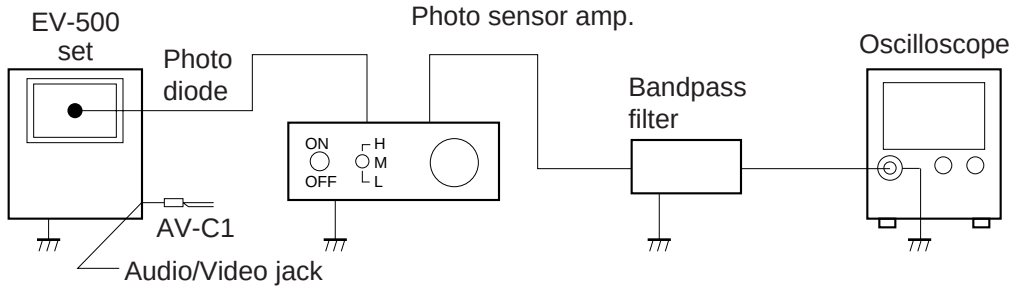
Vcom Adjustment



———	——	———	VR303	Oscilloscope	TP8	Adjust VR303 so that the high level of the square wave is at -0.5 ± 0.25 V. 

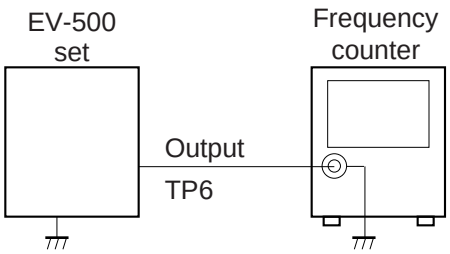
Vcom Adjustment

* Place a photo diode on the middle of the display plate.



Input Connection	Input Point	Input Signal	Adjust	Output Connection	Output Point	Result
_____	____	_____	VR303	Photo sensor amp. Bandpass filter Oscilloscope		Adjust to obtain the minimum ripple.

Free-Running Frequency Adjustment



_____	____	_____	VR740	Frequency counter	TP6	Adjust to obtain a reading of 15.73 ± 0.1 kHz.

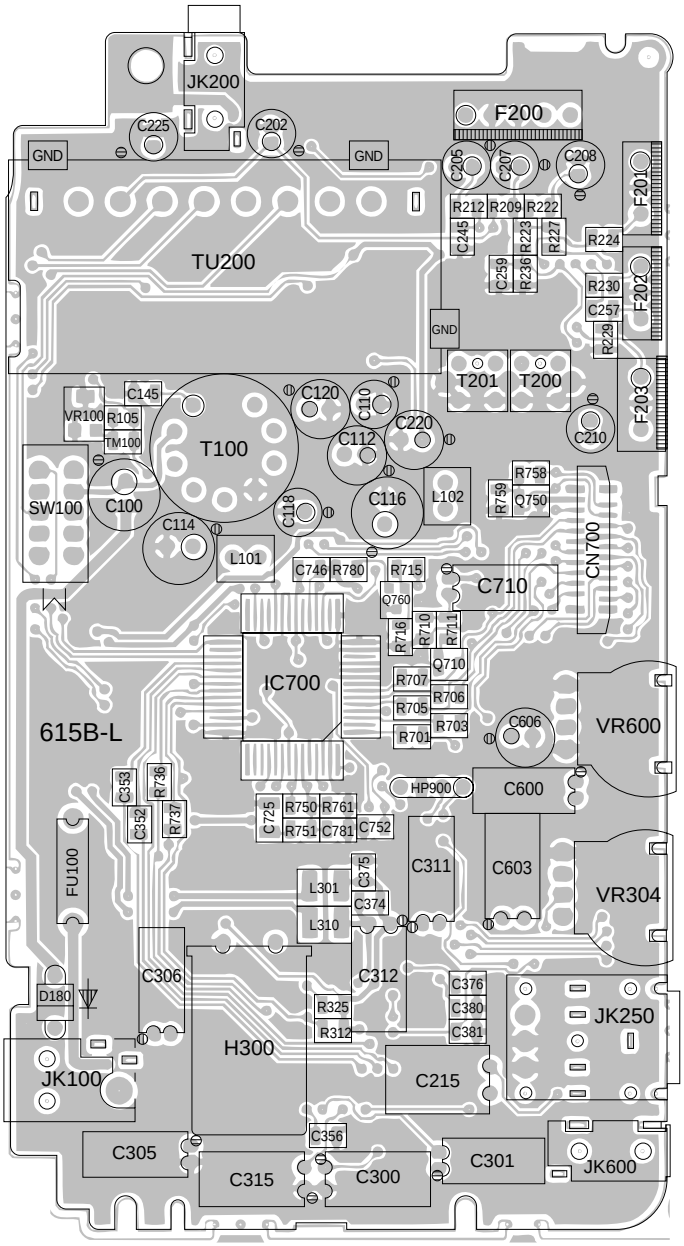
TROUBLESHOOTING

Symptom	Cause	Solution
No power supply	Defective power switch (SW100).	Replace.
No picture and no sound	Defective DC-DC converter (T100).	Replace.
	Defective tuner (TU200).	Replace.
	Defective Q200.	Replace.
	Defective IC200.	Replace.
	Defective IC300.	Replace.
	Defective IC270.	Replace.
	Defective IC700.	Replace.
Picture OK but no sound	Defective F201.	Replace.
	Defective IC200.	Replace.
	Defective IC600.	Replace.
	Defective phone jack (JK600).	Replace.
No reception of VHF or UHF	Defective tuner (TU200).	Replace.
	Defective IC270.	Replace.
	Defective power switch (SW100).	Replace.

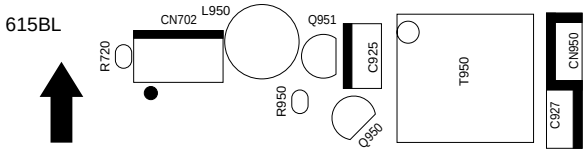
PRINTED CIRCUIT BOARDS

TOP VIEWS

Linear

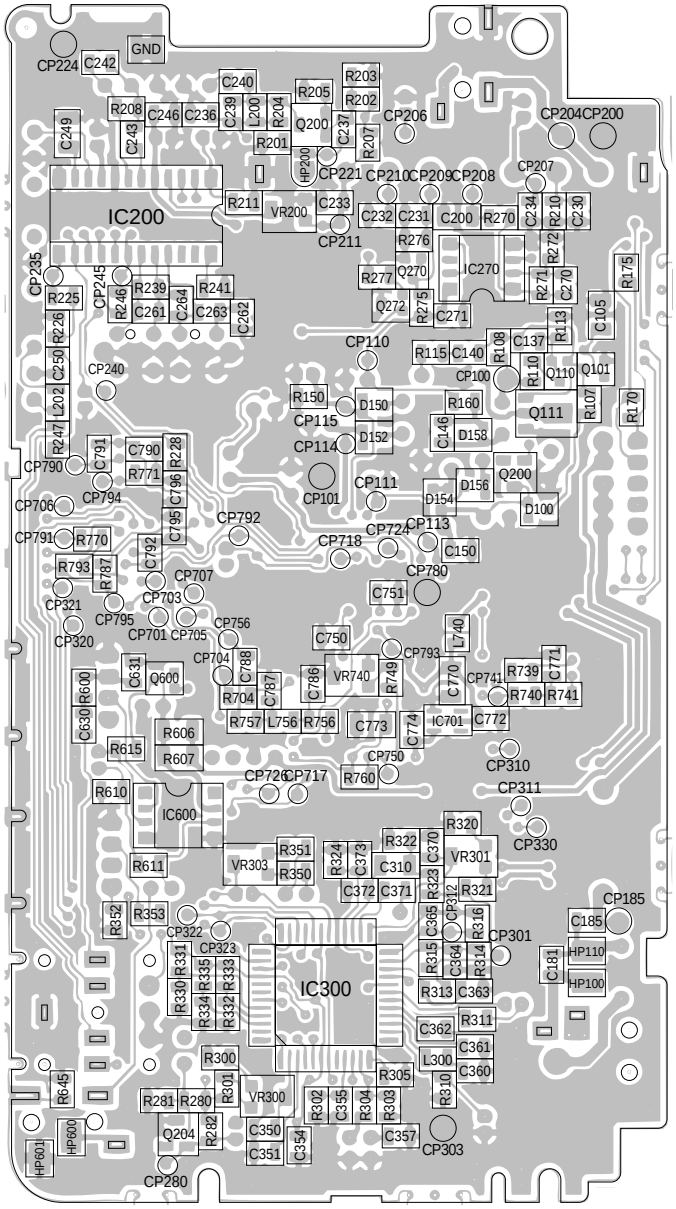


BL

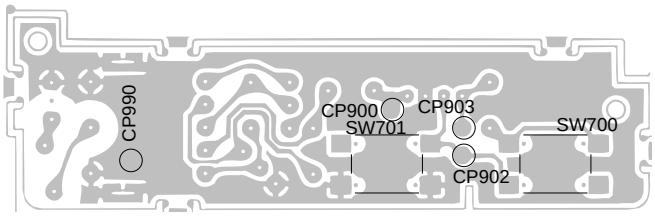


BOTTOM VIEWS

Linear



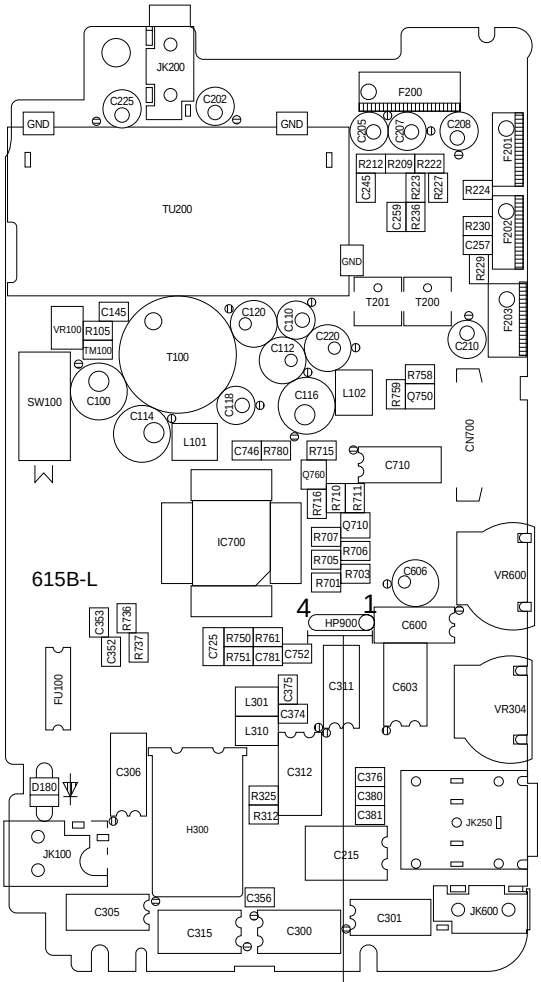
BL



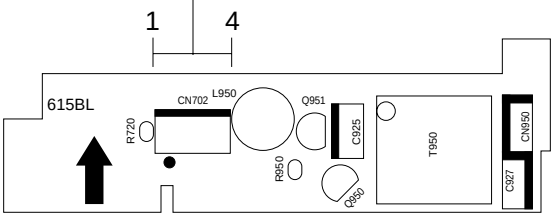
WIRING DIAGRAM

TOP VIEWS

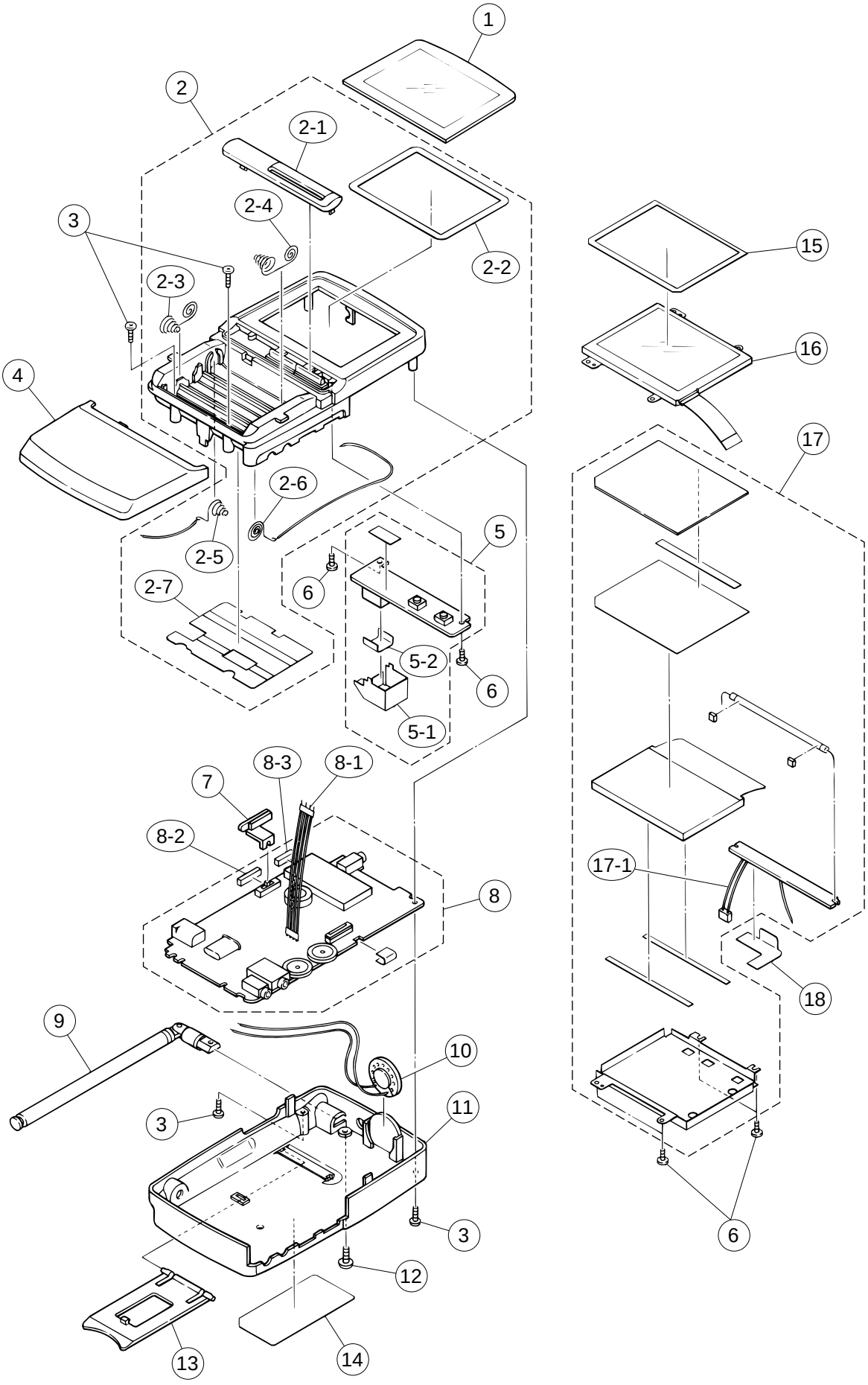
Linear PCB



BL PCB



EXPLODED VIEW



ELECTRICAL PARTS LIST

Linear PCB No. 1

N	Item	Code No.	Parts Name	Specification	Q	M	FOB Japan N.R.Yen Unit Price	R
		Capacitors						
	C100	2800 9175	Electrolytic capacitor (V)	6.3RC2-220MS	1	20	17	C
	C105	2845 4802	Chip capacitor	EMK316F225Z-T	1	20	16	C
	C110	2806 9329	Electrolytic capacitor (V)	25RC2-10MS	1	20	10	C
	C112	2828 5516	Electrolytic capacitor (V)	16RC2-47MS	1	20	15	C
	C114	2800 9175	Electrolytic capacitor (V)	6.3RC2-220MS	1	20	17	C
	C116	2800 9175	Electrolytic capacitor (V)	6.3RC2-220MS	1	20	17	C
N	C118	2828 5542	Electrolytic capacitor (V)	16RC2-22MS	1	20	12	C
N	C120	2805 2481	Electrolytic capacitor (V)	35RC2-22MS	1	20	14	C
	C137	2897 0189	Chip capacitor	GR40W5R682K50PT	1	20	8	C
	C140	2845 1344	Chip capacitor	GR40W5R471K50PT	1	20	4	C
	C145	2897 0252	Chip capacitor	GR40W5R152K50PT	1	20	5	C
	C146	2897 1617	Chip capacitor	GR40CH221J200PT	1	20	15	C
	C185	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C
	C200	2845 5488	Chip capacitor	UMK316B104K-T	1	20	12	C
	C202	2800 9182	Electrolytic capacitor	6.3RC2-47MS	1	20	15	C
	C205	2804 9765	Electrolytic capacitor (V)	50RC2-2R2	1	20	18	C
	C207	2800 9182	Electrolytic capacitor	6.3RC2-47MS	1	20	15	C
	C208	2800 9182	Electrolytic capacitor	6.3RC2-47MS	1	20	15	C
N	C215	2806 9476	Electrolytic capacitor (V)	6.3RC2BP-47-G9	1	20	23	C
	C220	2805 2499	Electrolytic capacitor (V)	6.3RC2-100MS	1	20	18	C
	C232	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C233	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C234	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C
	C236	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C237	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C240	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C243	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C245	2892 0083	Chip capacitor	GR40W5R103K50PT	1	20	14	C
	C246	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C249	2892 0844	Chip capacitor	GR42-6Y5V474Z16PT	1	20	27	C
	C250	2897 0952	Chip capacitor	GR40W5R153K50PT	1	20	9	C
	C257	2892 0407	Chip capacitor	GR40CH270J50PT	1	20	10	C
	C259	2897 0539	Chip capacitor	GR40W5R223K50PT	1	20	12	C
	C261	2892 0890	Chip capacitor	GR40PH560J50PT	1	20	13	C
	C262	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C263	2892 0890	Chip capacitor	GR40PH560J50PT	1	20	13	C
	C264	2897 0133	Chip capacitor	GR40CH0R5C50PT	1	20	7	C
	C270	2892 0083	Chip capacitor	GR40W5R103K50PT	1	20	14	C
	C271	2897 0175	Chip capacitor	GR40Y5V473Z50PT	1	20	6	C
N	C300	2806 9469	Electrolytic capacitor (V)	6.3RC2-100MS-G10	1	20	12	C
N	C301	2806 9371	Electrolytic capacitor (V)	6.3RC2-47MS-G9	1	20	9	C
	C305	2806 9336	Electrolytic capacitor (V)	50RC2-1-G9	1	20	9	C
	C306	2806 9385	Electrolytic capacitor (V)	50RC2-1-G10	1	20	9	C
	C310	2897 1827	Chip capacitor	EMK316B474K-T	1	20	22	C
	C311	2806 9392	Electrolytic capacitor (V)	16RC2-10-G10	1	20	9	C
N	C312	2806 9497	Electrolytic capacitor (V)	16RC2-47MS-G10	1	20	14	C
N	C315	2806 9504	Electrolytic capacitor (V)	10RC2-47MS-G10	1	20	12	C
	C351	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C352	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C353	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C355	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C

Notes: N – New parts
M – Minimum order/supply quantity
R – Rank

Linear PCB No. 2

N	Item	Code No.	Parts Name	Specification	Q	M	FOB Japan N.R.Yen Unit Price	R
	C360	2897 0196	Chip capacitor	GR40CH560J50PT	1	20	7	C
	C361	2897 0112	Chip capacitor	GR40W5R562K50PT	1	20	12	C
	C362	2897 0952	Chip capacitor	GR40W5R153K50PT	1	20	9	C
	C363	2897 0525	Chip capacitor	GR40CH151J50PT	1	20	7	C
	C365	2897 0280	Chip capacitor	GR40Y5V473Z25PT	1	20	6	C
	C371	2892 0113	Chip capacitor	GR40CH150J50PT	1	20	10	C
	C372	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C374	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C375	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C
	C376	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C381	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
N	C600	2806 9357	Electrolytic capacitor (V)	16RC2-22MS-G9	1	20	12	C
N	C603	2806 9469	Electrolytic capacitor (V)	6.3RC2-100MS-G10	1	20	12	C
	C606	2805 2499	Electrolytic capacitor (V)	6.3RC2-100MS	1	20	18	C
	C630	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C
	C631	2897 0364	Chip capacitor	GR40W5R392K50PT	1	20	13	C
N	C710	2806 9490	Electrolytic capacitor (V)	50RC2-3R3-G10	1	20	9	C
	C725	2897 2177	Chip capacitor	TMK316B224K-T	1	20	15	C
	C746	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C
	C751	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C
	C752	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C770	2845 4802	Chip capacitor	EMK316F225Z-T	1	20	16	C
	C771	2892 0237	Chip capacitor	GR40W5R222K50PT	1	20	9	C
	C773	2845 4802	Chip capacitor	EMK316F225Z-T	1	20	16	C
	C774	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C
	C781	2897 0112	Chip capacitor	GR40W5R562K50PT	1	20	12	C
	C786	2845 5670	Chip capacitor	UMK212UJ120J-T	1	20	4	C
	C787	2845 5670	Chip capacitor	UMK212UJ120J-T	1	20	4	C
	C788	2892 0059	Chip capacitor	GR40Y5V103Z50PT	1	20	9	C
	C795	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C
	C796	2892 0040	Chip capacitor	GR40Y5V104Z25PT	1	20	14	C
		Connector						
	CN700	3501 8316	Connector	52559-2090	1	5	70	C
		Diodes						
	D100	2390 1183	Chip diode	MA142WK-(TX)	1	20	9	C
	D110	2315 0158	Chip zener diode	MA3051-L(TX)	1	20	30	C
	D150	2390 1183	Chip diode	MA142WK-(TX)	1	20	9	C
	D152	2390 1183	Chip diode	MA142WK-(TX)	1	20	9	C
	D154	2390 1183	Chip diode	MA142WK-(TX)	1	20	9	C
	D156	2390 1183	Chip diode	MA142WK-(TX)	1	20	9	C
	D158	2390 1470	Chip diode	MA143A-(TX)	1	20	16	C
	D180	2390 1190	Chip diode	ERA15-01Y	1	20	9	C
		Filters						
	F200	3025 0182	SAW filter	SAF45MA60Z	1	1	140	C
	F201	3025 0714	SIF filter	SFSL4.5MDB12	1	10	33	C
	F202	3851 1057	Ceramic discriminator	CDSL4.5MC30C12	1	10	42	C
	F203	3850 1259	SIF trap	TPS4.5MB	1	10	50	C
		Fuse						
	FU100	3632 0469	Fuse	PI-251001(F10)	1	10	52	C
		Oscillator						
	H300	2590 0749	Crystal oscillator	HC-49U	1	1	110	C
		ICs						
	IC200	2114 1827	Linear IC	M51348FP-T1	1	1	190	B
	IC270	2116 0119	OP AMP	BA10358F-T1	1	10	39	C

Notes: N – New parts
M – Minimum order/supply quantity
R – Rank

Linear PCB No. 3

N	Item	Code No.	Parts Name	Specification	Q	M	FOB Japan N.R.Yen Unit Price	R
	IC300	2114 3633	Linear IC	IR3P90Y-1	1	1	620	B
	IC600	2114 2464	Linear IC	NJM2070M-T1	1	5	65	C
	IC700	2011 8337	LSI	MSM6770GS-VK-675-F	1	1	300	C
	IC701	2114 3458	IC	S-81230SG-QB-T1	1	10	50	C
		Jacks						
	JK100	3501 8281	Jack	HEC0811-010010	1	10	30	C
	JK200	3501 5439	Jack	HSJ1456-01-210	1	20	27	C
	JK250	3501 3773	Jack	HSJ6063-01-410	1	5	88	C
	JK600	3501 5439	Jack	HSJ1456-01-210	1	20	27	C
		Inductors						
	L101	3840 2374	Inductor	EL0405SKI-101K-2	1	10	48	C
	L102	3841 1386	Inductor	EL0405SKI-331K-2	1	20	22	C
	L200	3013 1393	Chip inductor	LK2125-R82K-TP	1	20	26	C
N	L202	3013 1904	Chip inductor	LK2125-150K-TP	1	20	27	C
N	L300	3013 1911	Chip inductor	LK2125-330K-TP	1	20	27	C
	L301	3013 1043	Chip inductor	NLC322522-101K-TP	1	20	28	C
	L310	3013 1043	Chip inductor	NLC322522-101K-TP	1	20	28	C
N	L740	3013 1848	Chip inductor	BK2125HS601-T	1	20	13	C
N	L756	3013 1911	Chip inductor	LK2125-330K-TP	1	20	27	C
		Transistors						
	Q101	2253 0133	Chip transistor	2SD1819A-R(TX)	1	20	12	C
	Q110	2253 0133	Chip transistor	2SD1819A-R(TX)	1	20	12	C
	Q111	2253 0308	Chip transistor	2SD1119-R(TX)	1	10	37	C
	Q200	2252 0707	Chip transistor	2SC4238-(TX)	1	20	17	C
	Q204	2210 8026	Chip transistor	2SB709A-R(TX)	1	20	23	C
	Q270	2259 1435	Digital transistor	DTC144EUWT106	1	20	9	C
	Q272	2259 1834	Digital transistor	DTA143TUWT106	1	20	15	C
	Q600	2259 1645	Digital transistor	DTA144EUWT106	1	20	10	C
	Q710	2253 0133	Chip transistor	2SD1819A-R(TX)	1	20	12	C
	Q750	2251 0189	Chip transistor	2SB1218A-R(TX)	1	20	10	C
	Q760	2251 0189	Chip transistor	2SB1218A-R(TX)	1	20	10	C
		Resistors						
	R105	2791 0742	Chip resistor	ERJ-6GEYJ332V	1	20	5	C
	R107	2791 0607	Chip resistor	ERJ-6GEYJ333V	1	20	4	C
	R108	2791 1919	Chip resistor	ERJ-6GEYJ274V	1	20	3	C
	R110	2791 1131	Chip resistor	ERJ-6GEYJ271V	1	20	3	C
	R113	2791 0720	Chip resistor	ERJ-6GEYJ222V	1	20	3	C
	R115	2791 0572	Chip resistor	ERJ-6GEYJ101V	1	20	5	C
	R150	2791 0607	Chip resistor	ERJ-6GEYJ333V	1	20	4	C
	R160	2791 1692	Chip resistor	ERJ-6GEYJ680V	1	20	3	C
	R175	2792 0110	Chip jumper	ERJ-6GEY0R00V	1	20	3	C
	R201	2791 2117	Chip resistor	ERJ-6GEYJ820V	1	20	4	C
	R202	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R203	2791 1170	Chip resistor	ERJ-6GEYJ182V	1	20	3	C
	R204	2791 0704	Chip resistor	ERJ-6GEYJ561V	1	20	4	C
	R205	2791 0688	Chip resistor	ERJ-6GEYJ220V	1	20	3	C
	R207	2791 1131	Chip resistor	ERJ-6GEYJ271V	1	20	3	C
	R208	2791 0734	Chip resistor	ERJ-6GEYJ272V	1	20	3	C
	R209	2791 0313	Chip resistor	ERJ-6GEYJ103V	1	20	5	C
	R210	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R211	2791 0777	Chip resistor	ERJ-6GEYJ104V	1	20	5	C
	R212	2791 0720	Chip resistor	ERJ-6GEYJ222V	1	20	3	C
	R222	2791 0696	Chip resistor	ERJ-6GEYJ470V	1	20	4	C
	R223	2791 2044	Chip resistor	ERJ-6GEYJ124V	1	20	3	C

Notes: N – New parts
M – Minimum order/supply quantity
R – Rank

Linear PCB No. 4

N	Item	Code No.	Parts Name	Specification	Q	M	FOB Japan N.R.Yen Unit Price	R
	R224	2791 0815	Chip resistor	ERJ-6GEYJ102V	1	20	5	C
	R225	2791 0599	Chip resistor	ERJ-6GEYJ822V	1	20	5	C
	R229	2791 1170	Chip resistor	ERJ-6GEYJ182V	1	20	3	C
	R230	2791 0704	Chip resistor	ERJ-6GEYJ561V	1	20	4	C
	R236	2791 2044	Chip resistor	ERJ-6GEYJ124V	1	20	3	C
	R239	2791 0580	Chip resistor	ERJ-6GEYJ392V	1	20	4	C
	R241	2791 2044	Chip resistor	ERJ-6GEYJ124V	1	20	3	C
	R246	2791 1420	Chip resistor	ERJ-6GEYJ331V	1	20	6	C
	R247	2791 0720	Chip resistor	ERJ-6GEYJ222V	1	20	3	C
	R270	2791 0607	Chip resistor	ERJ-6GEYJ333V	1	20	4	C
	R271	2797 1533	Chip resistor	ERJ-6GEYF473V	1	20	5	C
	R272	2797 1526	Chip resistor	ERJ-6GEYF472V	1	20	5	C
	R275	2791 0750	Chip resistor	ERJ-6GEYJ223V	1	20	6	C
	R276	2791 1390	Chip resistor	ERJ-6GEYJ473V	1	20	5	C
	R277	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R280	2791 0750	Chip resistor	ERJ-6GEYJ223V	1	20	6	C
	R281	2791 2079	Chip resistor	ERJ-6GEYJ562V	1	20	3	C
	R282	2791 0704	Chip resistor	ERJ-6GEYJ561V	1	20	4	C
	R300	2791 0769	Chip resistor	ERJ-6GEYJ563V	1	20	3	C
	R301	2791 1390	Chip resistor	ERJ-6GEYJ473V	1	20	5	C
	R303	2797 1218	Chip resistor	ERJ-6GEYF563V	1	20	3	C
	R304	2797 1533	Chip resistor	ERJ-6GEYF473V	1	20	5	C
	R305	2797 2156	Chip resistor	ERJ-6GEYF302V	1	20	5	C
	R310	2797 0035	Chip resistor	ERJ-6GEYJ105V	1	20	4	C
	R311	2791 1131	Chip resistor	ERJ-6GEYJ271V	1	20	3	C
	R312	2791 0815	Chip resistor	ERJ-6GEYJ102V	1	20	5	C
	R313	2797 2114	Chip resistor	ERJ-6GEYF333V	1	20	4	C
	R314	2797 1533	Chip resistor	ERJ-6GEYF473V	1	20	5	C
	R315	2797 1218	Chip resistor	ERJ-6GEYF563V	1	20	3	C
	R316	2797 1925	Chip resistor	ERJ-6GEYK335V	1	20	3	C
	R320	2791 0769	Chip resistor	ERJ-6GEYJ563V	1	20	3	C
	R321	2791 0607	Chip resistor	ERJ-6GEYJ333V	1	20	4	C
	R322	2791 0599	Chip resistor	ERJ-6GEYJ822V	1	20	5	C
	R323	2791 2079	Chip resistor	ERJ-6GEYJ562V	1	20	3	C
	R324	2797 1211	Chip resistor	ERJ-6GEYF223V	1	20	6	C
	R325	2797 1204	Chip resistor	ERJ-6GEYF203V	1	20	6	C
	R330	2797 1533	Chip resistor	ERJ-6GEYF473V	1	20	5	C
	R331	2797 1442	Chip resistor	ERJ-6GEYF683V	1	20	5	C
	R332	2797 3612	Chip resistor	ERJ-6GEYF823V	1	20	3	C
	R333	2797 1218	Chip resistor	ERJ-6GEYF563V	1	20	3	C
	R334	2797 1456	Chip resistor	ERJ-6GEYF623V	1	20	5	C
	R335	2797 1533	Chip resistor	ERJ-6GEYF473V	1	20	5	C
	R350	2791 0313	Chip resistor	ERJ-6GEYJ103V	1	20	5	C
	R351	2791 2109	Chip resistor	ERJ-6GEYJ393V	1	20	3	C
	R352	2791 0750	Chip resistor	ERJ-6GEYJ223V	1	20	6	C
	R353	2791 2109	Chip resistor	ERJ-6GEYJ393V	1	20	3	C
	R600	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R606	2797 3794	Chip resistor	ERJ-8GEYK3R9V	1	20	3	C
	R607	2797 3794	Chip resistor	ERJ-8GEYK3R9V	1	20	3	C
	R610	2791 1692	Chip resistor	ERJ-6GEYJ680V	1	20	3	C
	R611	2797 1841	Chip resistor	ERJ-6GEYJ512V	1	20	3	C
	R615	2791 1390	Chip resistor	ERJ-6GEYJ473V	1	20	5	C
	R645	2791 0696	Chip resistor	ERJ-6GEYJ470V	1	20	4	C
	R701	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C

Notes: N – New parts
M – Minimum order/supply quantity
R – Rank

Linear PCB No. 5

N	Item	Code No.	Parts Name	Specification	Q	M	FOB Japan N.R.Yen Unit Price	R
	R703	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R704	2791 0313	Chip resistor	ERJ-6GEYJ103V	1	20	5	C
	R705	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R706	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R707	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R710	2797 0252	Chip resistor	ERJ-6GEYJ823V	1	20	3	C
	R711	2791 0815	Chip resistor	ERJ-6GEYJ102V	1	20	5	C
	R715	2791 0607	Chip resistor	ERJ-6GEYJ333V	1	20	4	C
	R716	2791 0313	Chip resistor	ERJ-6GEYJ103V	1	20	5	C
	R736	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R737	2791 0305	Chip resistor	ERJ-6GEYJ472V	1	20	3	C
	R739	2797 1015	Chip resistor	ERJ-6GEYK225V	1	20	3	C
	R740	2797 3962	Chip resistor	ERJ-6GEYF394V	1	20	2	C
	R741	2791 2079	Chip resistor	ERJ-6GEYJ562V	1	20	3	C
	R749	2791 0580	Chip resistor	ERJ-6GEYJ392V	1	20	4	C
	R750	2791 1684	Chip resistor	ERJ-6GEYJ183V	1	20	3	C
	R751	2791 2095	Chip resistor	ERJ-6GEYJ682V	1	20	3	C
	R756	2791 0815	Chip resistor	ERJ-6GEYJ102V	1	20	5	C
	R757	2791 0815	Chip resistor	ERJ-6GEYJ102V	1	20	5	C
	R758	2797 1267	Chip resistor	ERJ-6GEYF393V	1	20	4	C
	R759	2797 1533	Chip resistor	ERJ-6GEYF473V	1	20	5	C
	R760	2791 2052	Chip resistor	ERJ-6GEYJ224V	1	20	3	C
	R761	2791 2052	Chip resistor	ERJ-6GEYJ224V	1	20	3	C
	R770	2797 0483	Chip resistor	ERJ-6GEYJ623V	1	20	2	C
	R771	2791 0696	Chip resistor	ERJ-6GEYJ470V	1	20	4	C
	R780	2792 0110	Chip jumper	ERJ-6GEY0R00V	1	20	3	C
	R787	2792 0110	Chip jumper	ERJ-6GEY0R00V	1	20	3	C
	R793	2791 0769	Chip resistor	ERJ-6GEYJ563V	1	20	3	C
		Switch						
	SW100	3412 0938	Slide switch	ESD-11V231	1	10	45	C
		Coils and Converter						
N	T100	3065 0518	DC-DC converter	LC12U-35	1	5	73	C
	T200	3841 1127	Coil	S5LD3-01	1	10	50	C
	T201	3841 1127	Coil	S5LD3-01	1	10	50	C
		Tuner						
	TU200	1013 5511	Tuner	TEPU5-02	1	1	760	C
		Thermister						
	TM100	2775 1085	Chip thermister	157-102-53031-TP	1	20	26	C
		Variable resistors						
	VR100	2775 1799	Chip semi-fixed resistor	POZ3AN-1-202N-T00	1	20	17	C
	VR200	2775 1820	Chip semi-fixed resistor	POZ3AN-1-503N-T00	1	20	17	C
	VR300	2775 1806	Chip semi-fixed resistor	POZ3AN-1-103N-T00	1	20	17	C
	VR301	2775 1813	Chip semi-fixed resistor	POZ3AN-1-203N-T00	1	20	17	C
	VR303	2775 1820	Chip semi-fixed resistor	POZ3AN-1-503N-T00	1	20	17	C
	VR304	2765 1708	Volume	XV081PV1NB10K3017	1	10	49	C
	VR600	2765 1708	Volume	XV081PV1NB10K3017	1	10	49	C
	VR740	2775 1806	Chip semi-fixed resistor	POZ3AN-1-103N-T00	1	20	17	C

Notes: N – New parts
M – Minimum order/supply quantity
R – Rank

BL PCB

N	Item	Code No.	Parts Name	Specification	Q	M	FOB Japan N.R.Yen Unit Price	R
		Capacitors						
	C925	2825 0392	TF capacitor	ECQ-V1H154JL	1	20	19	C
N	C927	2813 3213	Ceramic capacitor	DE0405SL270J2K	1	20	13	C
		Coil						
	L950	3013 0756	Choke coil	RCH-875-101K	1	5	55	C
		Connectors						
	CN702	3501 7182	Connector	52287-0411	1	20	22	C
	CN950	3500 7122	Pin ass'y	53253-0310	1	20	8	C
		Transistors						
	Q950	2253 0287	Chip transistor	2SD965-R	1	10	37	C
	Q951	2253 0287	Chip transistor	2SD965-R	1	10	37	C
		Resistors						
N	R720	2609 0371	Carbon film resistor	ERD-S2TJ472A	1	20	2	C
	R950	2609 0266	Carbon film resistor	ERD-S2TJ821A	1	20	2	C
		Switches						
	SW700	3412 1029	Switch	SKHHAL	1	20	12	C
	SW701	3412 1029	Switch	SKHHAL	1	20	12	C
		Transformer						
N	T950	3012 1239	Inverter trans	NT-06	1	1	140	C

Notes: N – New parts
M – Minimum order/supply quantity
R – Rank

MECHANICAL PARTS LIST

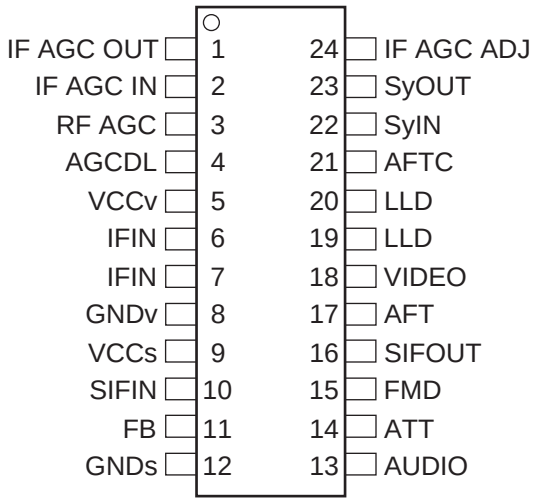
N	Item	Code No.	Parts Name	Specification	Q	M	FOB Japan N.R.Yen Unit Price	R
N	1	6609 8990	Display plate BXM-K615	K440169-1	1	1	110	C
N	2	6609 9365	Upper case ass'y	K340219*1	1	1	1,030	X
N	2-1	6609 9040	Upper cover B-K615	K240130-1	1	1	110	X
N	2-2	6609 9080	Adhesive tape A-K615	K440178-1	1	20	22	X
	2-3	6020 7658	Battery spring B1 G513	P408A-1	1	20	23	C
	2-4	6020 7666	Battery spring B2 G513	P409A-1	1	20	23	C
N	2-5	6609 9070	Battery spring A-K615	K440159-1	1	20	15	C
N	2-6	6609 9060	Battery spring B-K615	K440243-1	1	20	15	C
N	2-7	6609 9050	Battery plate A-K615	K440179-1	1	10	46	X
	3	5112 0868	Screw	BT3 1.7X5.0 Bk	4	20	3	X
N	4	6609 9000	Battery cover B-K615	K240129-1	1	5	81	C
N	5	6609 9367	BL PCB unit	K440267C*1	1	1	360	B
N	5-1	6609 9010	Shield case C-K615	K340098-1	1	20	29	X
	5-2	6607 0690	Insulation plate D-K508	K410441-3	1	20	7	X
	6	5860 0420	Screw	BT3 1.7X4 Ni	6	20	3	X
N	7	6609 9220	Switch knob A-K615	K340117-1	1	20	28	C
N	8	6609 9364	Linear PCB ass'y	K340220*1	1	1	9,170	B
N	8-1	6609 9090	Flat cable A-K615	K340176-1	1	10	38	C
N	8-2	6610 0520	Cushion A-K615	K440355-1	1	20	24	X
N	8-3	6610 2350	Cushion B-K615	K440411-1	1	20	24	X
	9	3851 1267	Rod antenna	YH810721	1	1	180	B
N	10	3831 0798	Speaker	T020S16C4310	1	1	210	C
N	11	6609 8970	Lower case B-K615	K140050-1	1	1	120	C
	12	6609 1290	Screw A-K610	K412031-1	1	20	3	X
	13	6608 8420	Stand A-K331	K310518-1	1	10	36	X
N	14	6610 1190	Rating plate BIM-K615	K440188-3	1	20	26	X
N	15	6609 8670	Adhesive tape B-K615	K440189-1	2	20	22	X
N	16	2725 1022	Display unit	COD25T2002NB-A	1	1	6,570	B
N	17	6610 0285	BL unit	K340217*1	1	1	3,080	B
N	17-1	6609 9130	Wire	K440185-1	1	10	40	X
N	18	6610 0510	Insulation plate A-K615	K440350-1	1	20	7	X

Notes: N – New parts
M – Minimum order/supply quantity
R – Rank

IC AND TRANSISTOR LEAD IDENTIFICATION

IC/LSI

IC200
M51348FP



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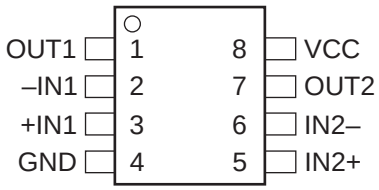

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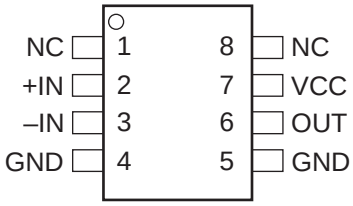

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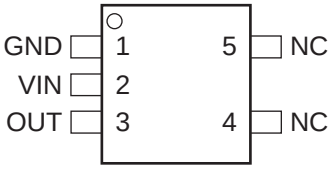

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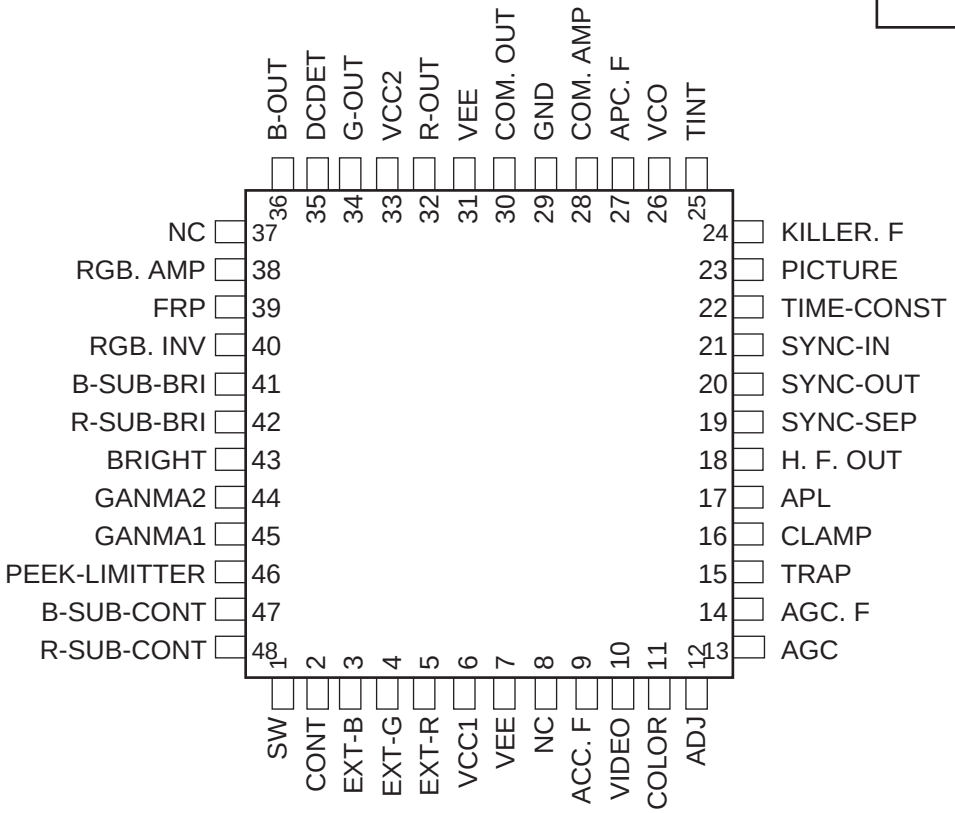

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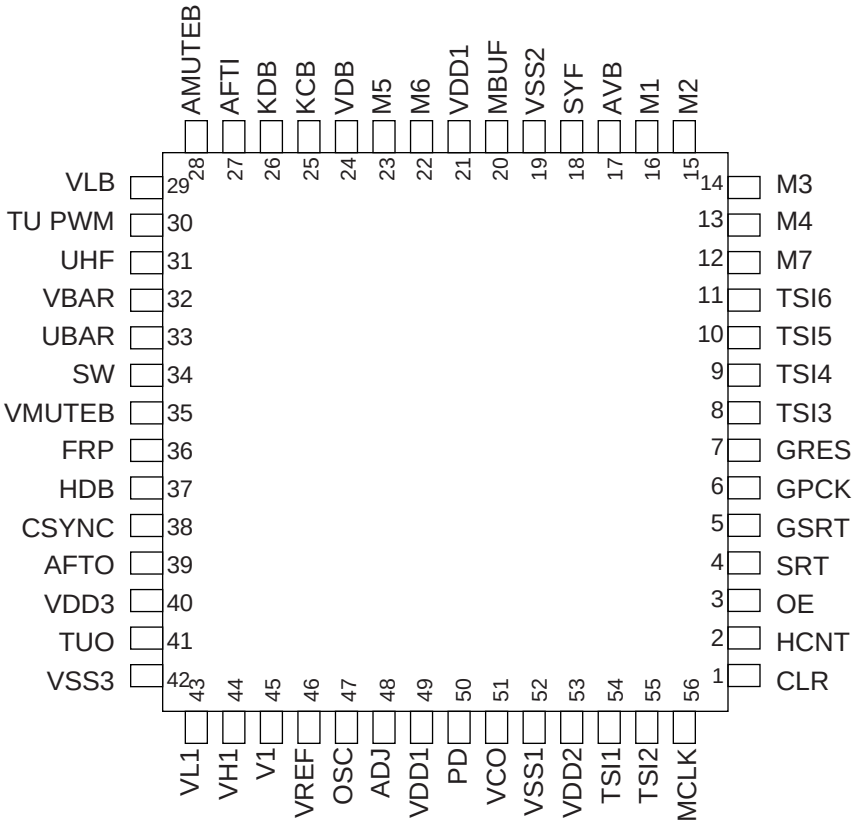
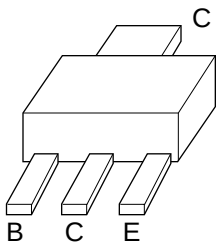


TRANSISTORS



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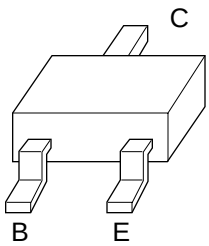
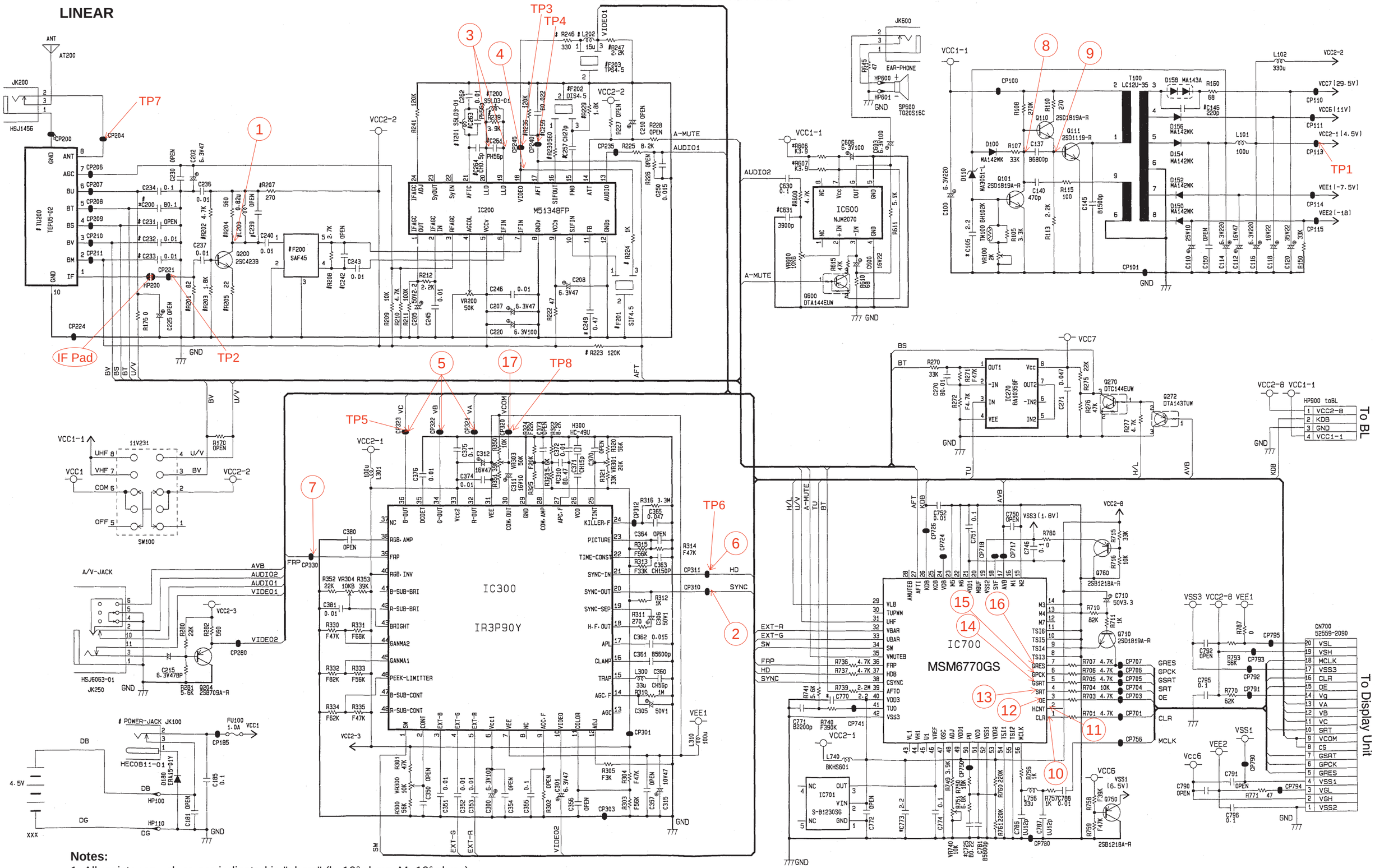


2SB1218A 2SC4238
2SD1819A
DTC144EUW

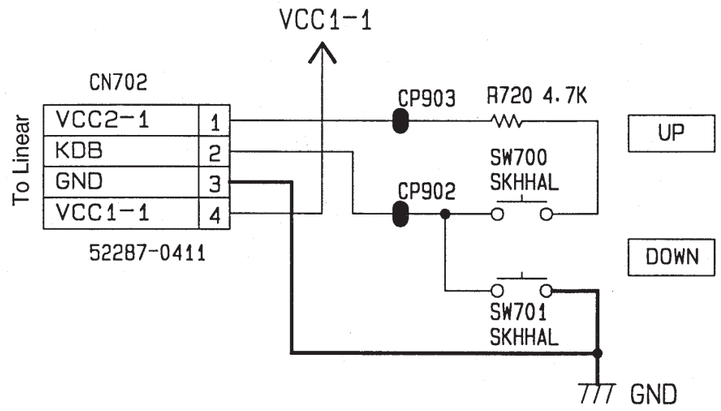
SCHEMATIC DIAGRAMS

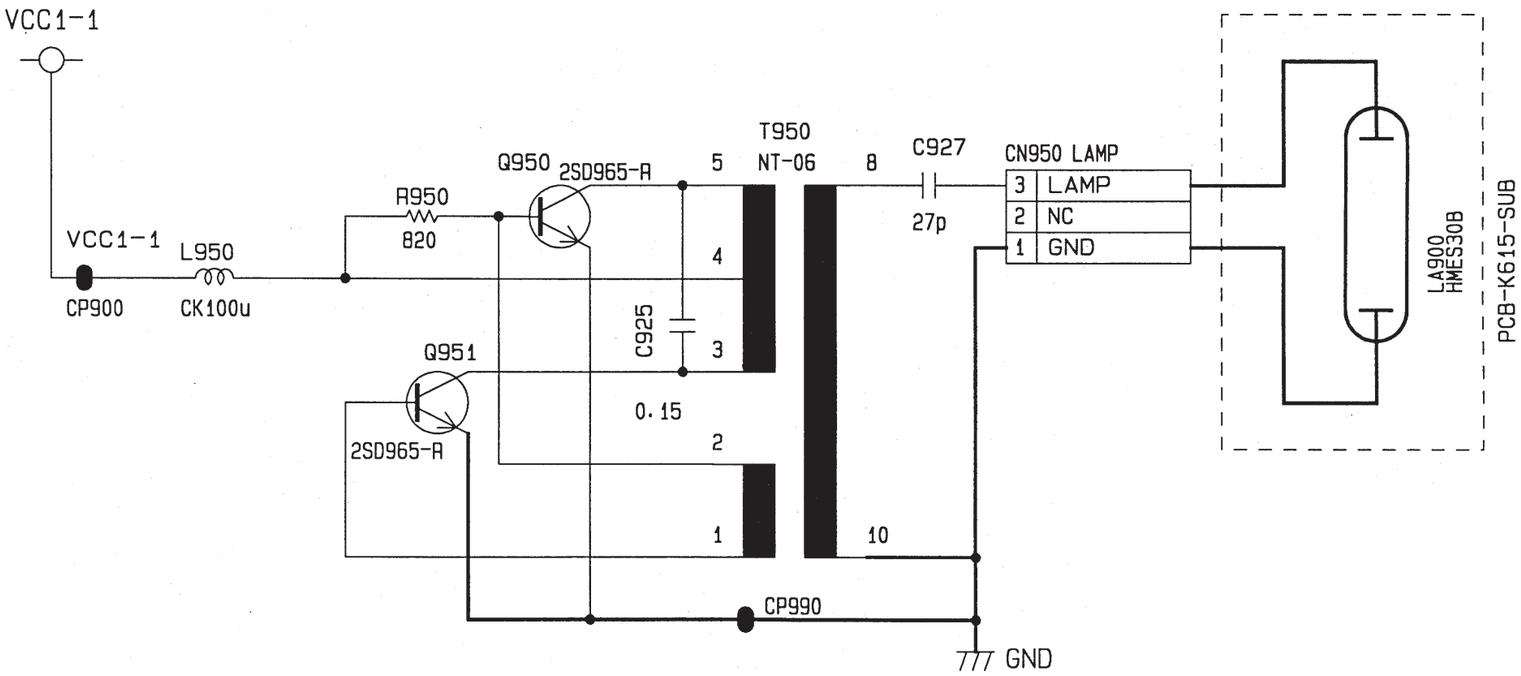
LINEAR



Notes:

1. All resistance values are indicated in "ohms" (k=10^3 ohms, M=10^6 ohms).
2. All capacitance values are indicated in "µF" (p=10^{-6} µF).
3. All inductance values are indicated in "µH."

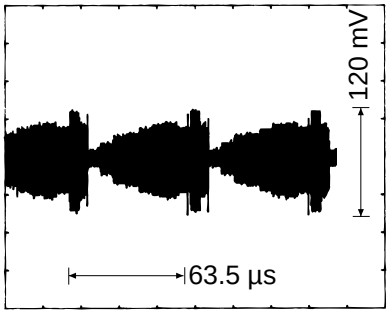




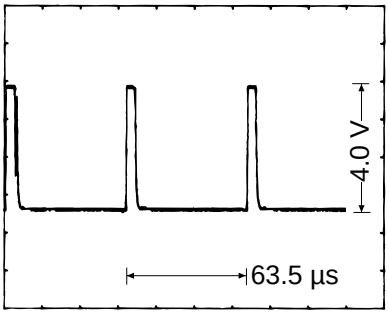
Notes:

1. All resistance values are indicated in "ohms" (k=10^3 ohms, M=10^6 ohms).
2. All capacitance values are indicated in "µF" (p=10^{-6} µF).
3. All inductance values are indicated in "µH."

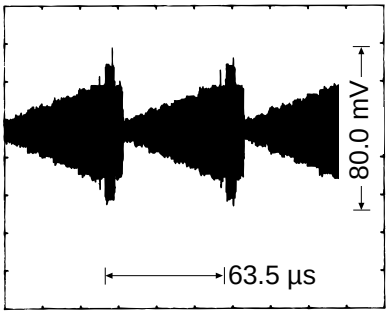
WAVEFORMS



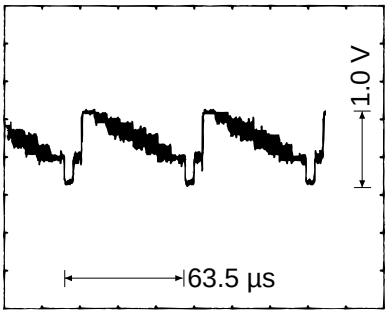
① Q200 collector



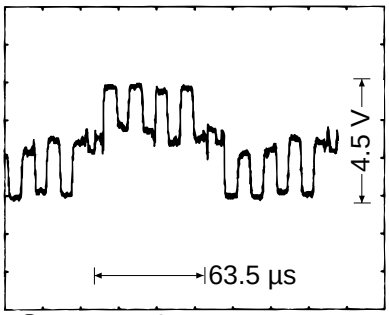
② IC300 pin 20



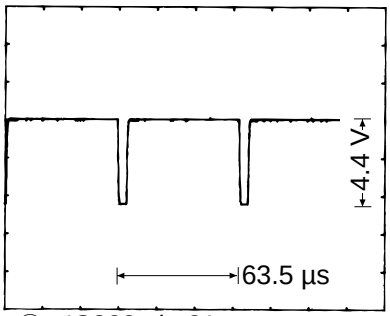
③ IC200 pins 19, 20



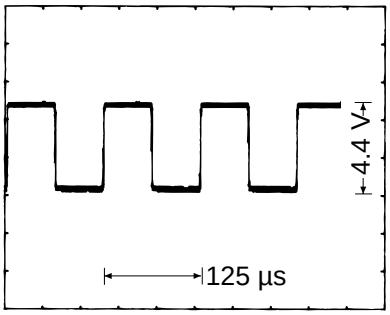
④ IC200 pin 18



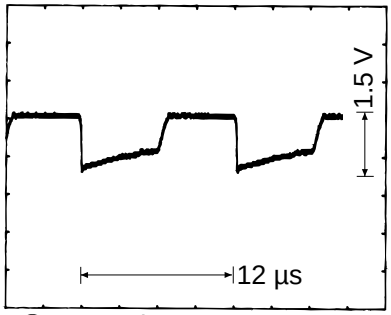
⑤ IC300 pins 32, 34, 36



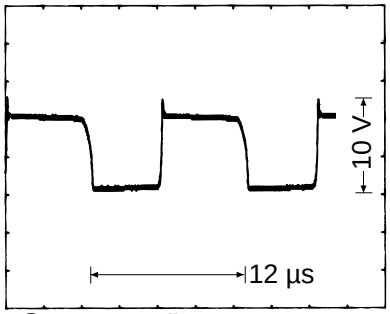
⑥ IC300 pin 21



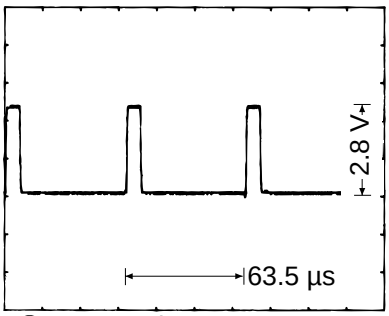
⑦ IC300 pin 39



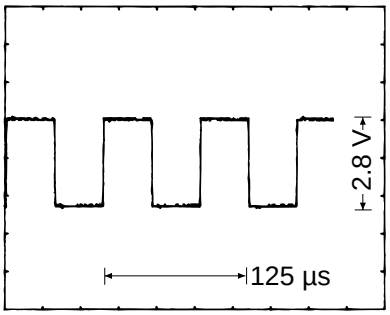
⑧ Q111 base



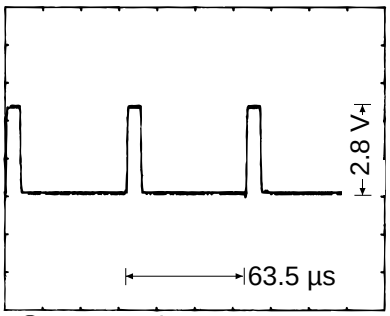
⑨ Q111 collector



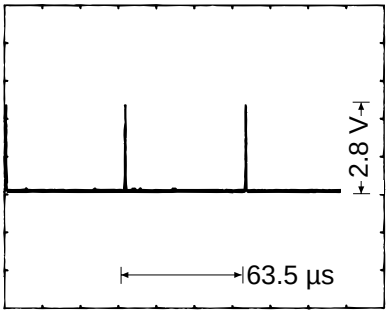
⑩ IC700 pin 1



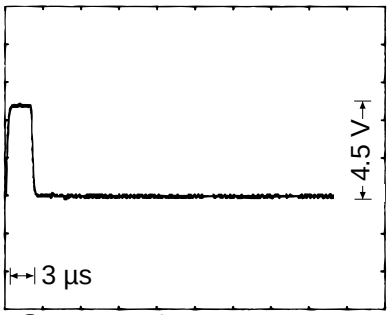
⑪ IC700 pin 2



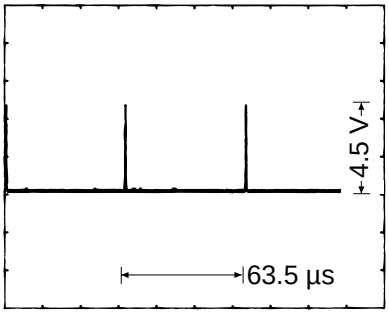
⑫ IC700 pin 3



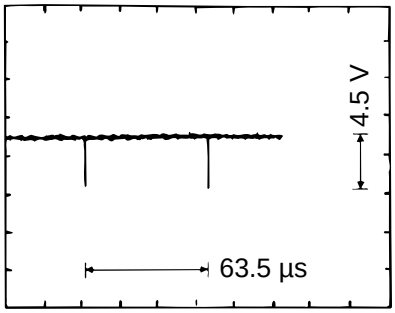
⑬ IC700 pin 4



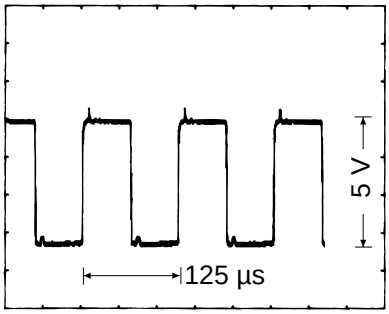
⑭ IC700 pin 5



⑮ IC700 pin 6



⑯ IC700 pin 7



⑰ IC300 pin 30

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